




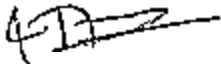
UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 30, 2002

MEMORANDUM TO: Melvyn N. Leach, Chief
Special Projects and Inspection Branch
Division of Fuel Cycle Safety
and Safeguards

THROUGH: Joseph G. Giltner, Chief 
Special Projects Section
Special Projects and Inspection Branch, FCSS

FROM: Yawar H. Faraz 
Senior Project Manager
Special Projects Section
Special Projects and Inspection Branch, FCSS

SUBJECT: OCTOBER 9, 2002, MEETING SUMMARY: U.S. ENRICHMENT
CORPORATION GAS CENTRIFUGE LEAD CASCADE
ENVIRONMENTAL REPORT PRE-APPLICATION MEETING

On October 9, 2002, U.S. Nuclear Regulatory Commission (NRC) staff held an open pre-application meeting with U.S. Enrichment Corporation (USEC) staff to discuss the Environmental Report. I am attaching the meeting summary for your use. Several members of the public attended the meeting.

Docket: 70-7003

Attachment: USEC Gas Centrifuge Lead Cascade
Environmental Report Meeting Summary

cc: William Szymanski/DOE
James Curtiss/W&S
Mario Robles/USEC
George Dials/LES

October 30, 2002

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*SEE PREVIOUS CONCURRENCE

OFC	SPIB*		SPIB*		SPIB*	
NAME	YFaraz		KValloch		JGitter	
DATE	10 / 28 /02		10 / 28 /02		10/ 30 /02	

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U.S. Enrichment Corporation Lead Cascade
Environmental Report Meeting Summary

Date: October 9, 2002

Place: U.S. Nuclear Regulatory Commission (NRC) Offices; Rockville, Maryland

Attendees: See Attachment 1

Purpose:

The purpose of this fifth pre-application open meeting was to discuss with U.S. Enrichment Corporation (USEC), its approaches used in developing its Environmental Reports (ERs) for its Portsmouth and Paducah gas centrifuge uranium enrichment test facility "lead cascade" license applications. Several members of the public attended including a reporter from McGraw Hill and an official from Governor Taft's (Ohio) office.

Discussion:

At the October 9th meeting, USEC indicated that it had drafted its ERs for the Portsmouth and Paducah lead cascades. USEC indicated that it will continue its efforts in preparing its lead cascade ERs for the Portsmouth and Paducah sites until it selects and announces a site in December 2002. USEC stated that both sites are suitable to host the lead cascade. At Paducah, USEC would place the lead cascade in a newly constructed 42,000 square foot building whereas at Portsmouth USEC would place the lead cascade in existing facilities. At the meeting, USEC informed the NRC that it would not be submitting its application for the lead cascade facility in December 2002 as previously anticipated, but rather in early 2003. USEC is required by its agreement dated June 17, 2002, with the Department of Energy (DOE) to submit its application by April 2003.

Following introduction of individuals attending the meeting, USEC staff provided a general overview of the content of its ER and some initial results. USEC indicated that both Paducah and Portsmouth are environmentally well documented sites with recent environmental data. USEC stated that to prepare its draft ER, it had used guidance contained in Chapter 9 of NUREG 1520 "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility." The NRC staff recommended that USEC also use guidance provided in Draft NUREG 1748 "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs." The NRC staff provided USEC a copy of Draft NUREG 1748 at the meeting.

During the meeting, USEC provided the NRC staff a perspective of the size and nature of operations that will occur in the lead cascade. USEC indicated that for the lead cascade, which will consist of 240 centrifuges, it will request a possession limit of 250 kilograms of UF₆; an amount that would occupy one waste basket. USEC stated that this quantity is about one million times less than the NRC-approved possession limits for the gaseous diffusion plants. The lead cascade would recycle the enriched and depleted uranium it produces. The only uranium withdrawals from the cascade will be in the form of samples. The uranium enrichment

limit for the lead cascade would be equivalent to the NRC-approved enrichment limit for the host site; ten and five weight percent U-235 for Portsmouth and Paducah, respectively. Approximately 50 full-time positions will be required to operate the facility. The lead cascade will also create approximately 25 indirect jobs.

USEC indicated that there would be no significant environmental impacts from the lead cascade; one of the main reasons being the small quantity of radioactive material that will be handled. For example, USEC indicated that the radiological dose to the maximally exposed individual would be less than 0.1 millirem. In addition, USEC stated that there is strong community support for the lead cascade project at Portsmouth and Paducah and an environmental justice issue does not exist.

Based on the results of the ER, USEC believes that the NRC can prepare an Environmental Assessment (EA) in nine to twelve months. USEC also indicated a willingness to support NRC site visits and any other meetings to discuss the ER. USEC's meeting handout is enclosed in Attachment 2.

After concluding the meeting, members of the public were provided an opportunity to ask the NRC staff questions. The reporter from McGraw Hill asked when the NRC expects USEC to submit its application. NRC staff replied that the target month for submittal of the lead cascade application and ER that USEC has indicated to the NRC is January 2003.

NRC Action Items:

None.

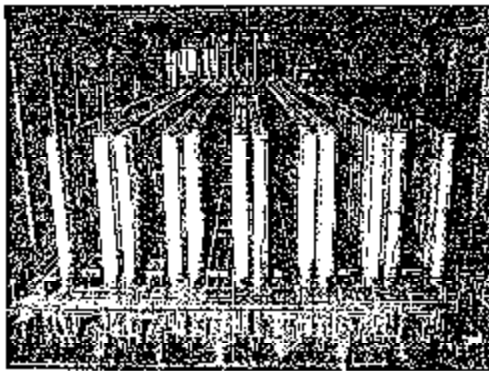
Attachments: 1. Attendee list
2. Meeting handout

U.S. Enrichment Corrosion Lead Cascade Facility
Pre-Application Meeting on Environmental Report
Date: October 9, 2002

NAME	AFFILIATION	PHONE	EMAIL ADDRESS
YAWAR FARAZ	NRC / FCS / SPIB	301-415-8113	yfar@nrc.gov
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Jim Lieberman	NRC / OLC	301-415-2786	jxl@nrc.gov

U.S. Enrichment Corporation Lead Cascade Facility
 Pre-Application Meeting on Environmental Report
 Date: October 9, 2002

NAME	AFFILIATION	PHONE	EMAIL ADDRESS
Joel Kramer	NRC/NES/RES/RAA	202-415-5591	jyke.I@nrc.gov
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Dennis Scott	USEC	(301)561-3352	scottid@usec.com
Pat Wescott	NRC/NES/RES	301-415-6227	kgw@NRC.GOV
Jim Marx-Brazner	Tetra Tech	815-682-3268	HBSEANER@TETRA.ORG
Dan Stout	USEC	301-561-3350	stoutd@USEC.COM
Tim Johnson	NRC/FESS	301-415-7299	TCJ@NRC.GOV



**USEC/NRC
5th Pre-Application
Meeting for the
Centrifuge
Lead Cascade
Facility**

NRC Headquarters

Rockville, Maryland

October 9, 2002



USEC
U.S. ENVIRONMENTAL PROTECTION AGENCY

1

Attachment 2

AGENDA

- **Purpose & Introduction**
- **Overview of Environmental Report**
 - ✓ Description of Proposed Action
 - ✓ Purpose of and Need for Proposed Action
 - ✓ Description of Affected Environment
 - ✓ Environmental Considerations (Discussion of Impacts)
 - ✓ Alternatives to the Proposed Action
 - ✓ Status of Compliance and Consultation
 - ✓ Adverse Information
- **Conclusions**
- **Feedback and Action Plan**

PURPOSE & INTRODUCTION

- **In accordance with the DOE-USEC Agreement:**
 - ✓ A License Application for the Lead Cascade is scheduled to be submitted to the NRC by 4/03
 - ✓ The Lead Cascade will be sited at one of the Gaseous Diffusion Plant sites
- **Site selection activities are underway; both Paducah and Portsmouth are suitable**
- **A draft Environmental Report has been prepared for each site**
- **Site selection process is based on comparison of quantitative and qualitative factors affecting scope, schedule and costs**

PURPOSE & INTRODUCTION

- **Purpose of today's meeting is to:**
 - ✓ Summarize general content and preliminary results from the Environmental Reports for the Lead Cascade to facilitate the NRC review
 - ✓ Obtain NRC feedback to ensure the Environmental Report meets expectations

DESCRIPTION OF PROPOSED ACTION

- **Build and operate a gas centrifuge lead cascade at a certified gaseous diffusion plant site under the DOE-USEC Agreement**
 - ✓ Modest possession limit of 250 kg UF_6
 - ✓ Utilize NRC-approved GDP programs as appropriate
- **Includes assembly, installation, startup, and operation of up to 240 full-scale centrifuges in a cascade configuration**
 - ✓ Same enrichment limit as host GDP site's limit
 - ✓ UF_6 Product and Tails will be recombined and re-fed
 - ✓ No enriched product will be withdrawn except for laboratory samples
- **Involves constructing a new building at Paducah (42,000 sq. ft.) or refurbishing existing facilities at Portsmouth**

DESCRIPTION OF PROPOSED ACTION

- No new hazardous materials
- No significant impacts
- Compatible with historic and current uses at site
- Strong community support
- Well-documented sites with recent data

PURPOSE OF & NEED FOR PROPOSED ACTION

- **The Lead Cascade Facility will:**
 - ✓ Demonstrate the reliability, performance, and economics of the gas centrifuges designed and tested by USEC in Oak Ridge, Tennessee
 - ✓ Secure data to support Commercial Plant deployment decisions
 - ✓ Minimize or eliminate technical, regulatory, and cost risk factors

- **The Lead Cascade is a step towards:**
 - ✓ Maintaining a viable domestic uranium enrichment industry
 - ✓ Continuing to provide a competitively priced product
 - ✓ Implementing the DOE-USEC Agreement
 - ✓ Promoting national energy security

DESCRIPTION OF AFFECTED ENVIRONMENT

- Both GDPs are fully developed Industrial sites
- Sites have been thoroughly evaluated, reviewed and monitored
- Since 1950s, sites have been used for uranium enrichment
- Leased areas have been under NRC oversight since 1997
- Typical GDP characteristics are orders of magnitude greater than Lead Cascade and include
 - ✓ NRC possession limits of 300,000,000 kgU
 - ✓ Process building area 3,000,000 to 4,000,000 ft²
 - ✓ Daily extraction of approximately 20,000 kg enriched UF₆

ENVIRONMENTAL CONSIDERATIONS

- **As required by NUREG-1520, the Environmental Reports consider the following:**
 - ✓ Effects of site preparations/construction on land and water use
 - ✓ Effects of site operation on human population and important biota
 - ✓ Irreversible commitments of resources from site preparation, construction and operations
 - ✓ Decommissioning and dismantling at the end of useful life
 - ✓ Environmental effects of transportation of radioactive material
 - ✓ Environmental effects of accidents
 - ✓ Impacts on air and water quality
 - ✓ Impacts on cultural and historic resources

EFFECTS OF SITE PREPARATIONS/CONSTRUCTION ON LAND AND WATER USE

- **Both sites are highly developed industrial areas**

- **PORTS**
 - ✓ No new construction of buildings
 - ✓ Refurbishment activities either inside of existing concrete-floor building or on paved ground
 - ✓ Site is currently supplied with utilities and the expected increased water usage is within existing capacities and less than historical levels of use

- **PGDP**
 - ✓ Construction activities to erect a new facility on leased land
 - ✓ Land is in a buffer area and is considered industrial
 - ✓ Site is currently supplied with utilities and the expected increased water usage is within existing capacities and less than historical levels of use

EFFECTS OF SITE OPERATION ON HUMAN POPULATION AND IMPORTANT BIOTA

- **Potential human health impacts estimated based on routine radioactive and chemical gaseous emissions**
 - ✓ Calculated Maximally Exposed Individual (MEI) dose much lower than EPA standard of 10 mrem/yr and NRC Total Effective Dose Equivalent (TEDE) standard of 100 mrem/yr
 - ✓ No adverse health effects expected from exposure to airborne chemical releases because airborne chemical concentrations will be very low
- **Operation requires approximately 50 FTE and leads to creation of approximately 25 indirect jobs in Region-Of-Influence**
 - ✓ Positive economic impact to region
 - ✓ No significant impact to population or housing are expected
- **For PGDP only, the vegetation on land to be used is either absent or is constantly disturbed by maintenance activities and does not provide natural habitat for rare, threatened, or endangered species**

IRREVERSIBLE COMMITMENTS OF RESOURCES FROM SITE PREPARATION/CONSTRUCTION

- **PGDP**

- ✓ Construction activities within the DOE buffer zone on leased land
- ✓ Buffer zone already considered industrial, therefore, no changes to land use would result
- ✓ Vegetation on the proposed location is almost absent or is constantly disturbed by maintenance activities (e.g., mowing) and does not provide a natural habitat for rare, threatened, or endangered species.

- **PORTS**

- ✓ Refurbishment activities are within existing industrialized site boundary
- ✓ Area of Proposed Action is either inside existing concrete-floor buildings or paved land; consequently, there is no vegetation within the immediate project area

DECOMMISSIONING AND DISMANTLING AT THE END OF USEFUL LIFE

- At the end of the useful life of the facility, land and facilities may be de-leased and turned over to DOE
- Facilities will be decontaminated, if needed
- Classified material, components, and documents will be dispositioned in accordance with the USEC Lead Cascade Security Program
- UF_6 will be transferred to an authorized facility
- Radioactive wastes will be disposed in licensed LLW disposal sites
- Hazardous wastes will be treated and/or disposed of in permitted hazardous waste facilities
- Funds for decommissioning will be provided in the form of a surety method or other guarantee method as required by 10 CFR 40.36(e) and 10 CFR 70.25(f)*

* Additional information will be provided in the Decommissioning Funding Plan to be submitted with the License Application

ENVIRONMENTAL EFFECTS OF TRANSPORTATION OF RADIOACTIVE MATERIAL

- **None**

- ✓ The 250 kg of UF_6 will be supplied by the host GDP and would not involve transit over public roadways
- ✓ Samples will be analyzed using on-site lab facilities

ENVIRONMENTAL EFFECTS OF ACCIDENTS

- Potential accidents for the proposed Lead Cascade operation are addressed in detail in the Integrated Safety Analysis
- ISA concluded that there would be no off-site radiological impact from any credible potential accident
- Off-site chemical impact of any potential accidents would be acceptable because of the small amount of inventory of UF_6 used

IMPACTS ON AIR AND WATER QUALITY

- Existing air quality at PORTS and PGDP is currently in attainment with National Ambient Air Quality Standards for all criteria pollutants
- Calculated MEI dose much lower than EPA standard of 10 mrem/yr and NRC TEDE limit of 100 mrem/yr
- Potential impact to water quality as a result of fuel or waste spill or sewer line leak and migration of contaminants in soil
 - ✓ Physical barriers/mitigation measures will be used to minimize impacts
- For PGDP
 - ✓ Construction activities are not expected to produce any fugitive dust
 - ✓ Physical barriers/mitigation measures will be used to minimize potential for increase in amount of sediment carried in surface water runoff

IMPACTS ON CULTURAL AND HISTORIC RESOURCES

- Both sites are located on previously disturbed industrial land
- No areas of cultural, archeological, or architectural significance would be impacted as a result of the Lead Cascade Project

ALTERNATIVES TO THE PROPOSED ACTION

- **Alternatives that were considered include the following:**

- ✓ Construct and operate a Commercial Plant without the Lead Cascade
- ✓ Construct and operate a non-centrifuge advanced technology facility
- ✓ Construct and operate a Lead Cascade test facility at a non-GDP location
- ✓ Construct and operate a Lead Cascade test facility at other GDP
- ✓ No Action

STATUS OF COMPLIANCE & CONSULTATION

- Both GDPs have permits and agreements for waste, water, and air emissions; the Lead Cascade will either operate within the scope of these permits or agreements or separate permits will be obtained if necessary
- The latest information will be provided regarding threatened and endangered species or designated critical habitat that could occur in the vicinity of the Lead Cascade
- State consultation letters will be provided regarding the presence of archaeological or historic sites in the vicinity and regarding the presence and future use of prime farmland soils

ADVERSE INFORMATION

- **No significant adverse environmental effects have been identified**
 - ✓ No new hazardous materials
 - ✓ Compatible with historic and current uses and activities
 - ✓ Well-documented sites with recent data

- **No unacceptable socioeconomic effects have been identified**
 - ✓ Strong community support for project
 - ✓ Maximize domestic employment
 - ✓ No environmental justice issue

CONCLUSIONS, FEEDBACK, ACTION PLAN

- **Site selection for the Lead Cascade will be completed by the end of this year**
- **USEC will submit the final Environmental Report with the Lead Cascade License Application early in 2003**
- **Based on the results from the draft Environmental Reports, USEC believes that an Environmental Assessment can be prepared in 9 to 12 months as indicated in NRC letter to USEC on 9/14/01**
- **USEC is prepared to support NRC site visits and meetings to discuss the final Environmental Report and is receptive to any other ways to facilitate the review**